

WORKING ON THE RAILROAD

Plants aren't the only resource for landscape managers. Here's how to turn old railroad ties into classy landscape features.

by Ronald C. Smith, Ph.D

Used railroad ties can be an effective feature of any landscape setting. Because of their mass and strength, railroad ties may also be used for any number of functional purposes.

Railroad ties are available from a number of sources around the country. Nurseries, lumber yards and railroad maintenance yards themselves are potential outlets for railroad tie selection.

Check the local newspapers for advertisements. In some cases, the ties are sold only in large lot sizes, in other cases, they are sold individually.

A railroad tie is a block of wood which measures approximately eight-feet six-inches in length, with the widths varying from 6x6-inches to 7x9 inches. In weight, the variation is much greater, from as little as 125 pounds to close to 200 pounds.

In some locations, crossing ties and switch ties are available and range in length anywhere from nine to 12 feet. At the time of forming, railroad ties are pressure treated with creosote and over the decades of supporting the tracks, have bled out any excess preservative, making them relatively safe to use in the landscape.

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Landscape ties vs. railroad ties

Landscape ties and railroad ties are not the same material and should not be used together in the same landscape setting. The neat, clean surface and smaller scale of the landscape tie is a direct contrast to the uneven wearing and often rock-scarred, sun-bleached, coarse-textured railroad tie.

In some areas, new railroad ties are sold. For landscape purposes, these should be avoided. During high summer temperatures, these new ties will bleed excessive creosote, which has some volatilization qualities that could cause damage to surrounding plant material.

Additionally, the cost of these new railroad ties is usually prohibitive for their intended purpose in the landscape. The cost of used ties will run anywhere from free for the taking, to as high as \$15 each.

The prudent user can fare just about as well by being selective with the free or lower cost ties.

Endless possibilities

In planning any construction project, consider used railroad ties as a possibility for materials. Rustic walkways, outdoor steps, rugged fences, borders around patios,

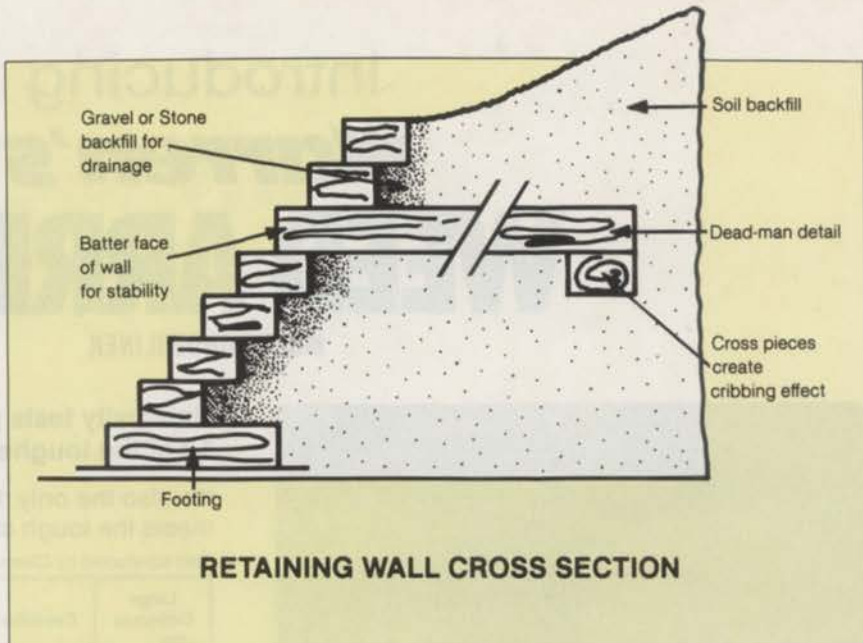
continued on page 54



Railroad ties can be cut and set to define a planting bed.



One creative use for railroad ties is as a mailbox.



RETAINING WALL CROSS SECTION

riprapping of banks, facing slopes, parking lot car stops, mailbox holders and bollards are some of the possible uses for used railroad ties.

Depending on the project to be undertaken, once a source of railroad ties has been located, begin stockpiling what is anticipated being needed.

Place the prime or soundest ties in one pile, those with only one or two good sides in another, those badly warped or disintegrated in a third pile.

In building a retaining wall, perhaps the most complex project undertaken using railroad ties, all three classes of ties would be used. The soundest, heaviest ties would make up the footing for maximum long-range stability, those with a good face or two can be the ties used to raise the wall and those which are warped or decayed, can be used as deadmen (see sketch).

Since used railroad ties are approximate in size, care will be needed in using them for anything other than simple edging.

In wall building, use the best quality, soundest ties as footings, making sure they are level by sighting with an engineer's level set on a tripod. The footing tie should be buried about one-half to two-thirds its width into the soil, or it can be set below grade depending on wall size.

Where the soil is unstable, drill holes through the ties in three evenly spaced places with a 1/2-inch auger, then use a sledge to drive a #4 concrete rebar into the holes and soil beneath.

With each succeeding course of ties going up, stagger the ties so that the ends line up over every other course. Each course should also be battered slightly into the slope. To secure into place, use six-inch spikes, toenailing at the end of each tie, three spikes along the face and two spikes along the backside of the course. For additional stability drill through two at a time with a 1/2-inch auger and drive the #4 rebars into place. This is especially important where pressure from landscape waterings and hard freezes in the winter are experienced.

In the third to fifth course of ties, deadmen should be installed. These are usually warped or badly scarred ties which go back into the bank or slope and are secured to a cross-piece tie for additional stability.

Generally, two to three more courses of ties are placed above the deadmen course. If the wall must be much higher, it is suggested that it be tiered to make handling of the ties easier and to keep the wall from being so imposing looking.

Once the wall is erected, it is a good idea to line the

backside with polypropylene mesh to minimize the seeping of stone and soil through the face of the wall. Where heavy rainfall is experienced, it is suggested that perforated ADS pipe also be laid along the base of the wall to carry the excess water away.

Then begin the backfilling process, with coarse stone or gravel going against the ties for about six inches. Encase the stone or gravel in a polypropylene envelope to keep silting to a minimum. Then add backfill soil for the balance of the fill. Make sure the surface area which will be planted to landscape plants has decent soil (modified with peat moss, sand or vermiculite if necessary) to a depth of six to eight inches.

With the passage of time, the plantings mature, providing a satisfactory setting for the railroad-tie encircled landscape.

If wall building is beyond the scope of intention, other uses of railroad ties not only abound, but are far simpler in execution.

Typical tools needed:

1. Gasoline or electric powered chain saws are a necessity to save labor. Be sure to have at least one extra sharpened chain to get through a day's cuttings.
2. For wall building, the engineer's level on a tripod to make sure each course is laid level. To accomplish this objective some hacking with a mattock or axe may be necessary. If no wall is intended, then a carpenter's level will keep the ties true enough over a normal course.
3. A supply of six-inch spikes and at least 20-oz. hammers to drive them. Often three-pound sledges can accomplish the task quicker, but muscle fatigue is greater.
4. A 1/2-inch power driven auger with an extension to go through two ties, and a supply of #4 rebars. The rebars are about 1/16-inch larger than the auger, providing a "grip" on the ties.
5. The usual collection of shovels, rakes, picks and work gloves.

Beware

While used railroad ties provide a rugged and rustic appearance to the landscape, care should be taken not to ruin the effect with sloppy workmanship. Lines should be straight, courses level and the corners neat.

With some imagination, common sense and hard work, the use of used railroad ties in the landscape can be both aesthetic and functional lasting a quarter of a century or longer.

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